

REMARKS

Claims 1-19 are present in the application. Claims 1, 2, 4 and 7 have been amended and claims 8-19 have been added. Claims 1, 2, 3, 4, 7, 11, 14 and 15 are independent. Reconsideration of this application, as amended, is respectfully requested.

REASONS FOR ENTRY OF AMENDMENTS

It is respectfully requested that the present amendments be entered into the official file in view of the fact that the amendments to the claims automatically place the application into condition for allowance. In the alternative, if the Examiner does not believe the application is in condition for allowance, it is respectfully requested that the present amendments be entered for the purposes of the Appeal.

REJECTIONS UNDER 35 U.S.C. § 102

Claims 4-7 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Newberg et al., U.S. Patent No. 5,296,197 or Newberg, U.S. Patent No. 5,786,209. These rejections are respectfully traversed.

As the Examiner will note, the present specification has been amended to reference prior U.S. Application No. 09/122,629 which was filed on July 27, 1998. A Supplemental Declaration is also being filed concurrently herewith. U.S. Application No. 09/122,629 issued as U.S. Patent No. 6,133,022 on October 17, 2000. Since there is co-pendency of the present application with U.S. Application No. 09/122,629, Applicant respectfully submits that the present application is entitled to benefit under 35 U.S.C. § 120 of U.S. Application No. 09/122,629. U.S. Application No. 09/122,629 is a continuation-in-part of U.S. Application No. 08/613,586, filed March 12, 1996, now U.S. Patent No. 5,786,209, which is a division of U.S. Application No. 08/215,416, filed March 21, 1994, now U.S. Patent No. 5,525,301, which is a continuation-in-part of U.S. Application 07/911,052, filed July 9, 1992, now U.S. Patent No. 5,296,197.

Since the present application now claims priority to Application No. 09/122,629 and since the subject matter of claims 4-7 are supported by the disclosure of U.S. Application No. 07/911,052, Applicant respectfully submits that the effective filing date of claims 4-7 is now the filing date of U.S. Application No. 07/911,052 of July 9, 1992. Since U.S. Patent No. 5,296,197 resulted from U.S. Application No. 07/911,052, Applicant respectfully submits

that Newberg et al. '197 and Newberg '209 are no longer proper references under 35 U.S.C. § 102.

In view of the above, it is respectfully requested that the Examiner reconsider and withdraw the rejection under 35 U.S.C. § 102(b) as being anticipated by Newberg et al. '197 or Newberg '209.

Claims 4-7 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Woodham et al., U.S. Patent No. 2,516,097. This rejection is respectfully traversed.

As the Examiner will note, independent claim 4 has been amended to recite that the internal drainage path of the valve body has "an angle of declination in a direction away from the vessel or conduit greater than or equal to said angle of inclination of said axis of said internal bore of the ferrule."

With the construction according to the present invention, even when the valve is installed in an inclined ferrule, complete draining of the valve can be accomplished. Applicant respectfully submits that the Woodham et al. reference fails to anticipate independent claim 4 in the present invention and is unable to accomplish the above advantages of the present invention.

In particular, Woodham et al. is directed to catalyst sampler. Referring to Figure 1 of this reference, a sampling tube 3 is

attached to an adapter 2 of a reactor 1. The Examiner considers the adapter 2 and the sampling tube 3 to be the ferrule and valve recited in independent claim 4 of the present invention. However, the ferrule 2 is a declining ferrule and not an inclining ferrule as in the present invention. Independent claim 4 requires the recitation "an axis of an internal bore of said ferrule having an angle of inclination in a direction away from the vessel or conduit." Since the adapter 2 of Woodham et al. has an angle of declination and not an angle of inclination in a direction away from vessel or conduit, Applicant respectfully submits that this reference fails to anticipate independent claim 4 of the present invention.

There is also absolutely no teaching in the Woodham et al. reference that would suggest the present invention. The present invention is a valve which is installed in an inclined ferrule and not in a declined ferrule as in Woodham et al. There is no problem in draining of the sampling tube 3 of Woodham et al., since both the adapter 2 and sampling tube 3 have a declining path in a direction away from the reactor 1. It can be visualized; however, that if the adapter 2 inclined in a direction away from the reactor 1, it would be impossible for the sampling tube 3 to drain properly since both

the adapter 2 and sampling tube 3 would incline in a direction away from the vessel or conduit. In the present invention; however, although the ferrule has an angle of inclination in a direction away from the vessel or conduit, the valve body has an internal drainage path having an angle of declination in a direction away from the vessel or conduit which is greater than or equal to the angle of inclination of the axis of the internal bore of the ferrule. In view of this, although the valve is installed in an inclined ferrule, the internal drainage path of the valve body is still allowed to drain fully.

With regard to dependent claims 5 and 6, Applicant respectfully submits that these claims are allowable due to their dependence upon allowable independent claim 4, as well as for the additional limitations cited by these claims.

With regard to independent claim 7, this claim also requires "said drainage trough continuously descending in a direction away from the vessel or conduit at an angle greater than or equal to the angle of inclination of the internal bore of said ferrule." Accordingly, Applicant submits that this claim is also allowable for the same reasons mentioned above with regard to independent claim 4, as well as for the additional limitations cited by this claim.

In view of the above amendments and remarks, Applicant respectfully submits that claims 4-7 clearly define the present invention over the references relied on by the Examiner. Reconsideration and withdrawal of the rejections under 35 U.S.C. § 102 are respectfully requested.

ADDITIONAL CLAIMS

Claims 8-19 also have been added to the Examiner's consideration. Applicant respectfully submits that these claims clearly define over the Woodham et al. reference relied on by the Examiner.

Favorable consideration and allowance of the additional claims 8-19 are respectfully requested.

ALLOWABLE SUBJECT MATTER

Claims 1-3 have been indicated by the Examiner as being allowable over the prior art. Applicant greatly appreciates the indication of the allowable subject matter by the Examiner. It should be noted that claims 1 and 2 have been amended to recite that "a diameter of the sampling orifice can be calculated with the following formula" instead of "being determined by the following

formula." Since the Examiner has indicated that claims 1-3 are allowable because the prior art of record fails to teach or fairly suggest a valve having an orifice or drainage trough dimensioned and positioned based on the dimensions and structure of the ferrule in which it is to be employed as dictated by the claimed formula, Applicant believes that claims 1 and 2 are still in condition for allowance. Confirmation of allowance of claims 1-3 is respectfully requested.

CONCLUSION

All the stated grounds of rejection have been properly traversed and/or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently pending rejections and that they be withdrawn.

It is believed that a full and complete response has been made to the Office Action, and that as such, the Examiner is respectfully requested to send the application to Issue.

In the event there are any matters remaining in this application, the Examiner is invited to contact Paul C. Lewis, Registration No. 43,368 at (703) 205-8000 in the Washington, D.C. area.

Applicant respectfully petitions under the provisions of 37 C.F.R. § 1.136(a) and § 1.17 for a one-month extension of time in which to respond to the Examiner's Office Action. The Extension of Time Fee in the amount of \$55.00 is attached hereto.

Attached hereto is a marked-up version of the changes made to the application by this Amendment.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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By 

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Attachment: Version with Markings to Show Changes Made

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification:

The following heading and paragraph has been added on page 1,
before line 1:

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a continuation-in-part of U.S. Application No. 09/122,629, filed July 27, 1998, now U.S. Patent No. 6,133,022, which is a continuation-in-part of U.S. Application No. 08/613,586, filed March 12, 1996, now U.S. Patent No. 5,786,209, which is a divisional of U.S. Application No. 08/215,416, filed March 21, 1994, now U.S. Patent No. 5,525,301, which is a continuation-in-part of U.S. Application No. 07/911,052, filed July 9, 1992, now U.S. Patent No. 5,296,197, the entire contents of each of these applications is hereby incorporated by reference.

In the Claims:

The claims have been amended as follows:

1. (Twice Amended) A valve for insertion into a ferrule having a given internal diameter, the valve having a sample cavity, a sampling orifice and a drain outlet, the sampling orifice and drain outlet being operatively connected to the sample cavity, a diameter

of the sampling orifice [being determined by] can be calculated with
the following formula:

$$Dov < or = Dfv - [(Dr1+Dr2) + (Dv1+Dv2) + (Dw1+Dw2) + (Ds1+Ds2) + Div + Ddv]$$
, wherein Dov is the diametric height for orifice construction, Dfv is the ferrule bore diametric height, Dr1 and Dr2 are the diametric spaces required to seal a body of the valve with a bore of the ferrule, Dv1 and Dv2 are the diametric spaces required to form upper and lower margins, respectively, of an annular wall of the valve body, Dw1 and Dw2 are the diametric spaces required to form an outer wall at the upper and lower margins of the valve body, respectively, Ds1 and Ds2 are the diametric spaces required to allow for an interstitial space between an inside diameter of the ferrule and an outside diameter of the valve body along the upper and lower margins of the valve body, respectively, Div is the diametric height lost due to an inclination of the bore, and Ddv is the diametric height to assure channel drainage.

2. (Amended) A valve for insertion into a ferrule having a given internal diameter, the valve having a sample cavity, a sampling orifice and a drain outlet, the sampling orifice and drain outlet being operatively connected to the sample cavity, a diameter

of the sampling orifice [being determined by] can be calculated with
the following formula:

$D_{ov} < \text{or} = D_{fv} - [D_{iv} + D_{dv} + C]$, wherein D_{ov} is the diametric height for orifice construction, D_{fv} is the ferrule bore diametric height, D_{iv} is the diametric height lost due to an inclination of the bore, D_{dv} is the diametric height to assure channel drainage, and C is a constant for a particular application including the diametric height for wall thickness, the diametric height for sealing arrangements, the diametric height for interstitial spaces and the diametric height for an annular seal.

3. A valve installed in an inclined ferrule, comprising:
a valve body;
a drainage trough formed in said valve body; and
an orifice, said orifice opening at a front of the valve body,
a lower margin of said orifice forming a beginning of said drainage trough, said lower margin being located at a predetermined point along a length of an internal bore of the ferrule,

wherein a vertical plane passing through said predetermined point on the lower margin passes through a point along a bottom margin of the bore of the ferrule, and L_f is a length from a point

at a rear margin of the ferrule to said point along said bottom margin, and

wherein in order for a freely draining trough to be formed in the valve body from the lower margin of the orifice to the rear margin of the ferrule, a vertical position of the lower margin must be higher than a value of Div calculated at said point along the bottom margin, for a flush-mounting valve, the value of Div can be calculated:

$$\text{Div} = L_f \sin (A_a)$$

where A_a is an angle of an axis of the bore of the ferrule.

4. (Amended) A valve installed in an inclined ferrule in a wall of a vessel or conduit, an axis of an internal bore of said ferrule having an angle of inclination in a direction away from the vessel or conduit, comprising:

a valve body, said valve body having an internal drainage path with an angle of declination in a direction away from the vessel or conduit greater than [an] or equal to said angle of inclination of [an] said axis of [an] said internal bore of the ferrule[:].

5. The valve according to claim 4, wherein said angle of declination of said drainage path of said valve body includes an additional angle of declination A_b , wherein a total angle of declination of the drainage trough is the sum $\{(-A_a) + A_b\}$, wherein A_a is the angle of inclination of the internal bore of the ferrule.

6. The valve according to claim 4, wherein said valve body includes an orifice formed therein, said orifice opening into a process, said drainage path beginning at a lower margin of said orifice and passing above and beyond a lower rear margin of the ferrule.

7. (Amended) A valve assembly, comprising:

a ferrule installed in [an inclined orientation into] a wall in a vessel or conduit, said ferrule having an internal bore having an angle of inclination in a direction away from the vessel or conduit, said internal bore having a first, process side and a second, non-process side;

a valve fitted into said internal bore of said ferrule, said valve having a valve body with an internal cavity, said valve body having an orifice in a front wall thereof, said orifice opening to

said process side of said internal bore of said ferrule, and a drain passage opening to the rear thereof, said drain passage being connected to the orifice by a drainage trough, said drainage trough beginning at a bottom margin of the orifice and ending at an opening of said drain passage, said drainage trough continuously descending in a direction away from the vessel or conduit at an angle greater than [an] or equal to the angle of inclination [(Aa)] of the internal bore of said ferrule and passing above a lower rear margin [Pr] of the internal bore of the ferrule.

Claims 8-19 have been added.